Water Bodies in NCT of Delhi

- Status, Problems and Rejuvenation

WATER BODIES

WETLANDS:

Hydrologically,submerged or water saturated lands, **Physically,**natural or manmade,**Spatially,**inland or coastal,**Temporally,**permanent or temporary,**Positionally,**static or dynamic,**Biologically,**vegetated or non-vegetated, which necessarily have a land-water interface.

- In a meeting [5th February, 2002 – Office of the Commissioner, MCD] of the several concerned govt. agencies it was noted that in the context of Delhi, water bodies are to be defined as **"Bodies of still waters in the urbanscape or ruralscape which are either naturally present or intentionally created"**
- **Areas of unintentional water logging along railway tracks, highways are excluded".**

The following water bodies are recognized as wetlands:

- Oxbow lakes, Rriverinemarshes
- Freshwater lakes and associated marshes (Lacustrine)
- Freshwater ponds (under 8 ha), Marshes, Swamps (Palustrine)
- Shrimp ponds, Fish ponds
- Shallow sea bays and Straits (under six meters at low tide)
- Estuaries, Deltas
- Sea beaches (sand, pebbles)
- Flooded arable land, Irrigated land
- Swamp forest, Temporarily flooded forest
- Peat intertidal mudflats, Sand flats
- Mangrove swamps, Mangrove forest
- Coastal brackish and Saline lagoons and marshes
- Salt pans (artificial)
- River Streams – slow flowing (lower perennial)
- Rivers, Streams – fast flowing (upper perennial)
- Salt lakes, Saline marshes (inland drainage systems)
- Water storage reservoirs, Dams
- Seasonally flooded grassland, savannah, palm savannah
- Rice paddies
- Bogs

LACUSTERINE

Relating to a system of inland wetlands and deep-water habitats associated with freshwater lakes and reservoirs, characterized by the absence of trees, shrubs, or emergent vegetation

FRESHWATER PONDS

A pond is a body of standing water, either natural or man-made, that is usually smaller than a lake.

SWAMPS (PALUSTRINE)

A swamp is a wetland that is forested. Many swamps occur along large rivers where they are critically dependent upon natural water level fluctuations.

MARSH

A marsh is a type of wetland that is dominated by herbaceous rather than woody plant species.[1] Marshes can often be found at the edges of lakes and streams, where they form a transition between the aquatic and terrestrial ecosystems. They are often dominated by grasses, rushes or reeds.

OXBOW LAKE

An oxbow lake is a U - shaped body of water formed when a wide meander from the main stem of a river is cut off to create a lake. This landform is so named for its distinctive curved shape, resembling the bow pin of an oxbow

RIVERINE MARSHES

A marsh is a type of wetland that is dominated herbaceous rather than woody plant species

DAMS

A dam is a barrier that impounds water or underground streamsDams generally serve the primary purpose of retaining water, while other structures such as floodgates or levees (also known as dikes) are used to manage or prevent water flow into specific land regions

FRESHWATER LAKE

Wular Lake (also spelt Wullar), One of the largest fresh water lake in Asia, is in Bandipora district in the Indian state of Jammu and Kashmir. The lake basin was formed as a result of tectonic activity and is fed by the Jhelum River

SHRIMP PONDS

Shrimp farming is an aquaculture business that exists in either a marine or freshwater environment, producing shrimp or prawns. The gate of a traditional shrimp farm inKerala, India which utilizes the tide to harvest shrimp.

STRAIT

A strait is a naturally formed, narrow, typically navigable waterway that connects two larger, navigable bodies of water. It most commonly refers to a channel of water that lies between two land masses. Down is a strait between the Tamil Nadu state of India and the Mannar district of the Northern Province of the island nation of Sri Lanka.

FISH POND

A fish pond, or fishpond, is a controlled pond, artificial lake, or reservoir that is stocked with fish and is used in aquaculture for fish farming, or is used for recreational fishing or for ornamental purposes.

ESTUARIES

An estuary is a partly enclosed coastal body of brackish water with one or more rivers or streams flowing into it, and with a free connection to the open sea. The Mandovi and Zuari are two important estuaries in Goa, which are considered as lifeline of Goa's economy.

DELTA

A river delta is a landform that is formed at the mouth of a river, where the river flows into an ocean, sea, estuary, lake, or reservoir. The Ganges Delta is a river delta in the South Asia region of Bengal, consisting of Bangladesh and the state of West Bengal, India.

SEA BEACHES

A beach is a landform along the shoreline of an ocean, sea, lake, or river. Kovalam beach, located in south Kerala, comprises three adjacent crescent beaches separated by rocky outcroppings. It is 16 km from Thiruvananthapuram, the capital city.

SWAMP FORESTS/FLOODED FORESTS

Swamp forests, or flooded forests, are forests which are inundated with freshwater, either permanently or seasonally. The Sunderbans fresh water forest is considered to be one of the endangered and endemic ecoregions in India.

SAND FLAT

A beach near the high-tide level may be so unstable that few animals are able to live in it.

MANGROVE FOREST

Mangroves are various types of trees up to medium height and shrubs that grow in saline coastal sediment habitats in the tropics and subtropics – mainly between latitudes 25° N and 25° S.

WATER STORAGE RESERVOIR

Water Storage Reservoir, an open-air storage area (usually formed by masonry or earthwork) where water is collected and kept in quantity so that it may be drawn off for use.

SALT PANS

Salt evaporation ponds, also called salterns or salt pans, are shallow artificial ponds designed to extract salts from sea water or other brines. The Little Rann of Kutch, Gujarat, India, is famous for its unique salt-pans where salt is harvested by local tribes.

RICE PADDIES

A paddy field is a flooded parcel of arable land used for growing semiaquatic rice.

BOGS

A bog is a mire that accumulates peat, a deposit of dead plant material—often mosses, and in a majority of cases, sphagnum moss.

SALINE MARSH

A salt marsh or saltmarsh, also known as a coastal salt marsh or a tidal marsh, is a coastal ecosystem in the upper coastal intertidal zone between land and open salt water or brackish water that is regularly flooded by the tides.

RIVER STREAM

A stream is a body of water with a current, confined within a bed and stream banks.

COASTAL BRACKISH

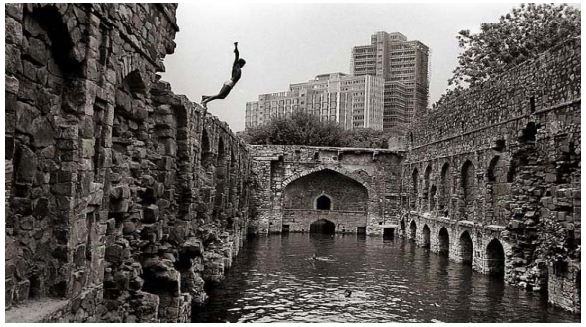
Brackish water or briny water is water that has more salinity than fresh water, but not as much as seawater.

SALINE LAGOONS

A lagoon is a shallow body of water separated from a larger body of water by barrier islands or reefs.

STEPWELLS & BAOLIS

Stepwells, also called kalyani or pushkarani (Kannada:), bawdi (Hindi: बावड़ी) or baoli (Hindi: बावली), barav (Marathi: बारव), vaav (Gujarati: વાવ) are wells or ponds in which the water may be reached by descending a set of steps.



NATURE OF WATERBODIES IN DELHI

- **Village pond/Johar**: The village ponds are mostly created water bodies having very small localized catchments for gathering rainwater. Most ponds present a state of neglect. Some of the ponds have become absorbed in the urban area or village abadi area where they have been used to discharge the local waste waters and thus become cess pools.

- **Lakes**:Most prominent are Bhalaswa Lake (a fresh water oxbow lake on the river floodplain), Sanjay Lake [apparently a meander scour on the floodplain] in East Delhi, NajafgarhJheel which used to be the largest lake in this area now lies mainly on the Haryana side of the inter-state border, HauzShamshi, HauzKhas, Old fort Lake.

- **Marshes:**Jahangirpuri Marshes is presently the largest water body in Delhi, is now outside the floodplain embankments

- **Stepwell and Baolis**are different categories of water bodies. They are created for drinking water purposes and get water out ground water. In In Delhi they are mostly with ASI.

Water bodies under the jurisdiction of various Departments/Authorities/Bodies responsible for its maintenance, development and improvement etc till 2010, namely:

Sl. No.	Department / Authority / Autonomous Body	Approximate Number of Water Bodies in their jurisdiction
1	Revenue Deptt/Irrigation & Flood Control Deptt.	**476**
2	Delhi Development Authority	**118**
3	Department of Archaeological Survey	**15**
4	Department of Forest	**12**
5	Central Public Works Department	**04**
6	Public Works Department	**02**
7	Municipal Corporation of Delhi	**01**
8	I.I.T	**01**
	Total	629

PROBLEMS TO SURVIVAL OF WATER BODIES

- a) Interrupted water flows from catchments to water bodies due to encroachments etc.
- b)**Poor and Erratic rainfall** the water bodies dry out quickly
- c) Being most water bodies are riverfed, because of **intervening embankments** due to **urbanization they** are disconnected from the river
- d) **Siltation and sludge deposition in the water bodies** takes place through settlement of sludge from waste waters inflow leading to eutrophication of water bodies as well as sand silt flow into them being not removed later.
- e) **Solid waste** is surreptitiously disposed into some water bodies to reclaim the land [even **flyash** disposal has been done in some major water bodies]
- f) Village ponds are often marked for **acquisition**by the Govt. for various forms of social infrastructure [schools, dispensaries, sports facilities, etc.]. As the pond lands are public lands negligible acquisition proceedings or compensation is required.
- g) In many cases the **ponds have become engulfed in the abadi area** and become **cess pools**of waste water and the villagers are only too glad to have them filled up.
- h) Apart from physical threats there is also the threat arising from **perception of water bodies**. The **poor quality of water bodies, the remoteness and inaccessibility** of most of them, as well as the poor quality of their surrounding development places them rather low on the environmental radar and as such authorities have no compulsion about reclaiming them.
- i)The**citizens also are quite unaware and unconcerned** about them and therefore feel no stake in them. The rural citizen, having become reliant on tube wells and tankers also feels that he has no stake in them.
- J) As such there **is little pressure from the public** on official agencies to preserve water bodies.
- **Aquatic life and fish, which are the indicators of the health of a water body, are conspicuously absent in most of the water bodies due to poor quality of water in them**

ISSUES IN PRESERVATION OF WATERBODIES IN DELHI

- Preservation of water bodies is **not the mandate of single government agency**. The water bodies come under jurisdiction of different agencies which are not charged with their preservation or maintenance. Thus, **institutional arrangements in this regard are very weak.**

- In spite of the survey conducted in 2001 some doubts persist with regards to the precise number of water bodies, **the actual areas of submergence remain unmapped and unmeasured, the exact location of water bodies**with reference to village abadis remains unmapped. This hinders the development of an action plan as well as deprives monitoring of changes.

- A major issue is **whether every single water body should be preserved** as it is or should **the present available water spread be maintained on a reasonably dispersed basis**. It is **not possible to rejuvenate all water bodies** or service each of them with water supply. Many of them are far **too small** to make any worthwhile impact on the aquifer. Should tiny water bodies or cesspools in the midst of abadi areas be preserved or should they be allowed to be filled up and **maintained as green**? The lost water spread is recreated elsewhere **where it can be part of a larger water body and be maintained perennially as well.**

- **Awareness about the surface water bodies of Delhi and their potential is extremely low** both in the govt. as well as in the public mind – the public is not aware of its stakes in the preservation of water bodies

- Lack of proper Action Plans and constant monitoring along with follow up action .

NEED TO PRESERVE WATER BODIES IN DELHI

- In view of the unavoidable reliance on ground water there is a pressing need **to augment the declining groundwater** reserves.
- Dispersed **aquifer recharge** structures for enriching the local ground water regime and enable sustained **tube well** operations in the local area
- Habitats for **aquatic and avian bio-diversity** which is vanishing from Delhi
- Substantially add to the **visual attraction** of the area
- Moderate the **micro-climate**
- Offer **recreational** possibilities
- Increase **soil moisture** to support enhanced vegetation growth in the localized area
- G O I asserts that States should have 2-5% area under water bodies for hydrological balance

COURT CASES

- **In the Hon'ble High Court of Delhi at New Delhi**

W.P.(C) 3502/2000 (VINOD KUMAR JAIN – Petitioner Versus Govt. of NCT of Delhi – Respondent)

W.P.(c) 3637/1998(Gram Uthan and Jan KalyanSamiti Village Petitioner versus MCD and ORD –Respondent

W.P.(C) 4385/2001(Okhla Industries Association-Versus Delhi JAl Board –Respondent)

W.P.(C) 3515/2002(Society for C.H.E.T.N.A –Petitioner Versus Lt. Governor of Delhi and ORS – Respondent)

W.P.(C) 8227/2002(Resident's Welfare Association – Petitioner Versus UOI and ORS - Respondent)

W.P.(C) 4750/2003(Vinod Kumar Jain – Petitioner Versus Govt. of NCT of Delhi and ORS - Respondent)

W.P.(C) 6755/2003(Environment Protection Front – Petitioner Versus UOI and ORS- Respondent)

W.P.(C) 7262/2003(Kulwinder Singh – Petitioner Versus Sanjay Chopra and ORS - Respondent)

W.P.(C) 14679-82/2004(Patparganj GaonVikasSamiti and ORS – Petitioner Versus Lt.Governor and ORS-Respondents)

W.P.(C) 21143-44/2005(Khajan Singh and ORS– Petitioner Versus UOI and ORS - Respondent)

W.P.(C) 16193-98/2006 (Jagdish and ORS – Petitioner Versus Govt. of NCT of Delhi and ORS- Respondent)

Hon'ble Court Orders

- **09/05/2007** Nodal Agency Under Chief Secretary with all the heads of the concerned agencies to coordinate , monitor and report about action taken on

- 1. Replacement of old pipes to reduce leakage, pilferage and overflow of water which is about 40%.
- 2. Regulate under ground water withdrawal and follow rain water harvesting.
- 3. Rain water harvesting for flyovers and roads.
- 4. Follow up rain water harvesting and recycle of water in buildings discharging over 10,000 Ltrs. per day.
- 5. Stop misuse of storm water drains for emptying sewage draining to Yamuna River or water bodies. making them polluted.
- 6. Providing sewage facilities to all 189 Rural Villages.
- 7. Rescue the water bodies occupied a legally or dried up

- **17/03/2009** Police Housing colony in 22 Acre out of 60 acre (Rest 20 ac for water body and 18 acre for green area)

- **25/03/2009** Green area/water body near Bapu nature cure in Patparganj

Field Visits of Court Commissioner

03/06/2009 – Vinonagar, Mandawali, Kichirpur, Gazipur, Tahirpur, Sundernagari, Nandnagari, Seelampur, Shashtripark

05/06/2009 – Harsvihar, Khunijhil,Gopalpur, Dhirpur, Bhalsua,Sirsapur,Pitampura, Prasadnagar,Dasghara

10/06/2009 – Burari, Mukundpur, Ibrahimpur, Hiranki, Bakhtawarpur, Akbarpur, Tigipur, Hamidpur,Singhu,Naglipura,

23/12/2009 – Naraina, Nasirpur, Palam, Kakrola, Raghopur,

24/12/2009 – Dhirpur, Badli, Samaypur, Praladpur, Barwala, Kherakhurd,Nayabans, Halambikhurd, Daryapur,
30/12/2009 – Samaypur, Badli

05/06/2010 – Khirki, Asola, Fatehpur beri, Deramandi, Bhatti, Mehroli,Katwaria sarai, Madangir,Devli, Tuglagabad

07/06/2010 - Nasirpur, Palam, Kakrola, Nawada, Matiala, Hastal, Tatarpur

27/11/2010 – Azadpur, Bharola, Sarai pipal Thala, Haiderpur, Rithala,Pansali, Poothkalan, Mangolpur, Madipur, Badli,

26/03/2011 - Dasagraha, Mayapuri, Dabri, Nasirpur, Palam, Dhulsiras,Bournili, Chhawla,

02/04/2011 - Masudpur, Tihar, Sakurpur, Piragarhi, Naharpur,

23/04/2011 - Rohoni, Ayanagar, Sultanpur, Chhatarpur, Ehatpur, Khanpur, Baharpur, Kotla Mubarkpur

30/04/2011 - Sukurpur, Basai Darapur, Peera Garhi,Kamrudin ,Mundka, Tikri Kalan,Rani Khera,Mubarakpur Dabas, Ladpur,Karala,Pooth Khurd

07/05/2011 - Basai Darapur,Rasul Pur,Kanjawala,Begam pur,Siras Pur,Bankoli,Libas Pur.

Proposed Action Plan

- The plan of action, is to be closely monitored by the Hon. High Court.

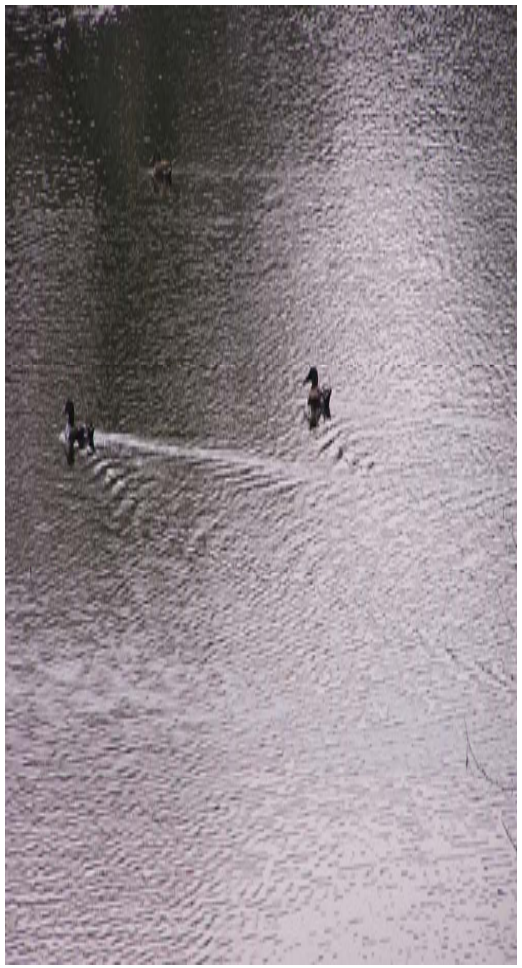
- The first requirement **the Institutional arrangements** under the aegis of which sustained work can take place where all the concerned agencies can be represented.
- As such it is proposed that a Waterbody Development Agency/Authority may be set up in Delhi on the lines of a similar Lake Development Authority in Bangalore.

- As Such**Nadal agency** has been formed being headed by the Chief Secretary, Govt. of NCT Delhi with representation from DDA, Delhi Jal Board, MCD and Department of Tourism, Delhi and others, representatives from CPWD, ASI, MCD etc

. NGO representation is also made.

- **Objectives :**
- a) To establish a **mapped database** of all waterbodies and field inspections.
- b) To draw up **action plans and follow them for preservation and maintenance** of waterbodiesand water quality and surrounding development
- c) To **monitor changes** in waterbodies deciding each case on merit
- d) To enforce periodical preservation of waterbodies (**size and water quality**)
- e) To promote **awareness** about Delhi's waterbodies
- f) To actively seek opportunities to **enlarge the water and green spread** in Delhi
- g) To draw up plans for the **use** of waterbodies for decentralized water supply and/or recreation and/or as biodiversity habitats

Components of Action Plan for Each Water body



i) Desiltation and weed removal/cleaning

ii) Water Augmentation by linkage to canals, storm water drain or recycled water supply from DJB STPs or removal of waterlogging as well floodwaters to fill waterbodies

iii)Upgradation of waters through various bio-remediation/other techniques including fisheries

iv) Sustainable decentralized water supply in rural areas by **shallow tube wells based on the recharge** effected through waterbodies followed by decentralized treatment [this would create a major stake in the sustenance of waterbodies]

v) **Landscape, Greening, biodiversity and recreational** facilities to be incorporated with waterbodies and its watershed/catchment to make for visual attraction as well as public interest

vi**) Revenue generation** aspects should be considered

vii) **Monitoring** through field visits reporting their status alterations

- **Rural Villages**: Provision of appropriate sewage management system in 189 villages required for about 100 water bodies receiving sewage water till 2011.

  - 154 out of 189 villages need Land for STP/SPS
  - 34 villages need sewer network
  - 49 villages need sewer lines
  - 53 villages need waste stabilization ponds
  - 53 villages needs sewage treatment plants
  - 42 cases of gram sabha land and 48 cases of private land under approval process

Rain water harvesting System and Ground water Regulation and management till 31-11-10

Boring Permissions	538
Refused	200
pending	191
RWH sanctioned	198
Boring sealed	56
Prosecution	03

Now Coordination

- On **15-03-2011** Chief Secretary of Delhi has given the task to the Environment Department with CEO Delhi Parks and Gardens Society as nodal officer on its behalf.
- He has desired that **data base of all water bodies** in NCT of Delhi be prepared including **mapping, demarcation of area and catchments limits and photographing** thereof etc., and **a set of action plan be prepared for planned development of each Water Body** on the following issues, namely:-

(a) Encroachment and waste disposal issue.

(b) Revival Status/prospects.

(c) Greening of boundaries and catchments areas of all the water bodies

(d) Sustainable existence, regular de-slitting, cleaning operations of revived/revivable water bodies followed by probable water bodies usages for pisciculture, water sports and others alike.

(e) Taking initiatives towards PPP based models or other methods for involving local people, institutions, corporate for these water bodies on ecologically sustainable basis.

(f) Rain Water harvesting status and sewage treated water flow towards revival of these water bodies

(g) Regular field visits and meetings with water body owning agencies as well taking up issues arising in news etc.

(g) Any other action that may be taken for improvement and in terms of direction of the Hob'ble Court, if any

APEX BODY

- For the purpose of regular monitoring the progress of water bodies in NCT of Delhi, the following Apex Body headed by Chief Secretary, Delhi is hereby constituted as under:-
- **APEX BODY :**
- Chief Secretary, Delhi - Chairperson
- Secretary (Env.& Forest) - Vice-Chairperson
- Divisional Commissioner
- (Revenue Deptt.) - Member
- Chief Engineer, IFCD - Member
- CMD, DSIIDC - Member
- VC, DDA - Member
- APCCF, Forest Deptt. - Member
- Chief Engineer, CPWD - Member
- Engineer-in-Chief, PWD - Member
- Director, IIT - Member
- Commissioner, MCD - Member
- Principal Secretary, UD - Member
- CMD, SRDC - Member
- CEO, Delhi Jal Board - Member
- Director, (Planning) - Member
- Member-Secretary, DPCC - Member
- CMD, DTTDC - Member
- Chairperson, NDMC - Member
- C.E.O., DPGS - Member-Secretary

Prof. C. R. Babu, Delhi University - Member

Court Commissioner nominated by Hon'ble DHC - Member

TAPAS, (NGO) - NGO

Representatives (Technical) of

- Director, NEERI, Nagpur
- Director, IARI, PUSA
- DG, (Forest), Ministry of (E & F), Govt. of
- Director, IIT, Delhi
- Director, School of Planning & Architecture (SPA)

STEERING COMMITTEE

Steering Committee to monitor the progress and intervene as and when required during the time of execution of various programme in the improvement of water Bodies and provide it suggestions is also hereby constituted as under :-

Secretary (Env.& Forest)	-	Chairperson
C.E.O., DPGS	-	Vice-Chairperson cum-Convener
Departmental Head/Nominated Officer of the Deptt. owning Water Bodies	-	Member
Director, Environment Deptt. GNCTD	-	Member
Prof. C. R. Babu, Delhi University	-	Member
Court Commissioner nominated by Hon'ble DHC	-	Member
TAPAS, (NGO)	-	NGO

Representatives (Technical) of

Director, NEERI, Nagpur
Director, IARI, PUSA
DG, (Forest), Ministry of (E & F), Govt. of India
Director, IIT, Delhi
Director, School of Planning & Architecture (SPA)

FUTURE ACTION

- 6th monthly report to be submitted in Hon'ble Court
- Agency wise action plan, progress and status report along with photographs of each water bodies upon regular field visits and meeting/discussions.
- Nodal officers in water body owning agencies, Executive officer as well Plantation development officer of the water bodies and Local SDM/BDO in charge with office locations and contact no's be defined
- Steps to make a Delhi Water Bodies protection and Development Authority similar to Bangalore LDA.

Agencies wise Nos. of Water Bodies

S. No.	District	DDA	BDO	MCD	DJB	DUSIB	PWD	ASI	Forest	DMRC	Wakf Board	Total
1	East	48	3	3								54
2	North East	18	25	4	2							49
3	North	10	143	1				2				156
4	North West	54	105	2	1	1	1		2			166
5	South	47	50	1				9	12		1	120
6	South East	36	2	1								39
7	South West	43	213	7	1			1		1		266
8	West	23	47	4						1		75
9	DC-New Delhi	27	28	1			1	1	4			62
10	Central	9	13	1				2				25
Total		315	629	25	4	1	2	15	18	2	1	
											Grand Total	1012

Status wise break-up of water bodies

		Traced	Non Treceable	Dry		Wet				Encroachment		Built up (Legal/Illegal)		
1	East	52	2	25		3				3		16		54
				D	UD	D		U D		Partly	Fully	Legal	Illegal	
						2		1						
						S	N S	S	N S					
				3	22	0	2	1	0	2	1	12	7	

		Traced	Non Treceable	Dry		Wet				General Encroachment		Built up		
2	North East	47	2	13		2				2		9		49
				D	U D	D		U D		Partly	Fully	Legal	Illegal	
						1		1						
						S	N S	S	N S					
				5	8	1	0	0	1	0	2	6	3	

		Traced	Non Treceable	Dry		Wet				General Encroachment		Built up		
3	North	149	7	82		52				49		8		156
				D	U D	D		U D		Partly	Fully	Legal	Illegal	
						29		23						
						S	N S	S	N S					
				31	50	4	32	8	15	25	24	5	3	

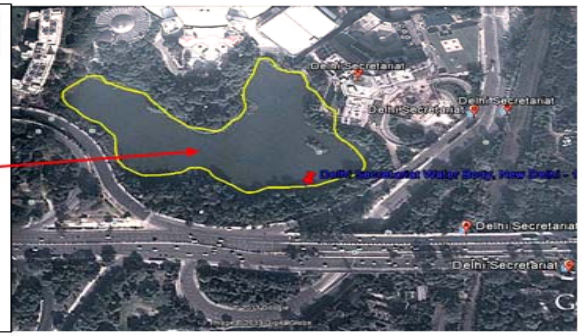
		Traced	Non Treceable	Dry		Wet				General Encroachment		Built up		
4	North West	157	9	46		81				23		11		166
				D	UD	D		U D		Partly	Fully	Legal	Illegal	
						47		34						
						S	N S	S	N S					
				14	22	3	40	9	25	9	6	6	5	

		Traced	Non Treceable	Dry		Wet				General Encroachment		Built up		
5	South	108	12	34		31				29		28		120
				D	U D	D		U D		Partly	Fully	Legal	Illegal	
						15		15						
						S	N S	S	N S					
				7	27	2	13	8	7	10	19	18	10	

6	South East	Traced	Non Treceable	Dry		Wet				General Encroachment		Built up		
		11	28	3		2				2		5		39
				D	UD	D		U D		Partly	Fully	Legal	Illegal	
						1		1						
						S	N S	S	N S					
				0	3	0	1	1		0	2	5	0	
7	South West	Traced	Non Traceable	Dry		Wet				General Encroachment		Built up		
		245	21	110		91				36		16		266
				D	U D	D		U D		Partly	Fully	Legal	Illegal	
						61		30						
						S	N S	S	N S					
				81	29	16	45	9	21	14	22	13	3	
8	West	Traced	Non Traceable	Dry		Wet				General Encroachment		Built up		
		70	5	18		36				21		10		75
				D	U D	D		U D		Partly	Fully	Legal	Illegal	
						17		19						
						S	N S	S	N S					
				8	10	3	14	10	9	8	13	5	5	
9	New Delhi	Traced	Non Treceable	Dry		Wet				General Encroachment		Built up		
		45	17	15		0				0		0		62
				D	U D	D		U D		Partly	Fully	Legal	Illegal	
						4		6						
						S	N S	S	N S					
				8	7	1	3	2	4	2	6	4	3	
10	Central	Traced	Non Treceable	Dry		Wet				General Encroachment		Built up		
		21	4	3		11				0		0		25
				D	U D	D		U D		Partly	Fully	Legal	Illegal	
						9		2						
						S	N S	S	N S					
				0	3	1	8	2	0	0	3	4	0	
TOTAL		905	107	157	181	31	158	50	82	70	98	78	39	
													Total	1012

A step towards an Ideal Water Body

DELHI SECRETARIAT WATER BODY



It is a land locked water body located at 28° 37' 42.44"N longitude and 77° 15' 05.42" E at an elevation of 211 Meters amsl along Yamuna River Bank. Water body is surrounded by Delhi Secretariat building and I.G.I Stadium on two sides while roads on other two sides. Source of water is rain as well as underground water of river Yamuna. It is a permanent wet water body.

This water body has meandering pathways in its surrounding sheltered with lush green vegetation, which makes the expose tiles in the pathways hormonius with overall landscape setting.

The vegetation in and around water body is lush green and dense with both deciduous and evergreen plant species. It has all four vegetation levels like Grasses, Shrubs, Middle Height Plants and Big Trees. Its Phytodiversity is mix of both natural and exotic species. Important ones are Bahera, Ber, Bamboo, Ficus, Ticoma, Bottle Brush, Kalendra, Arundodonex, cyperus etc. Water body has fish like Rohu, Catla, Mrigal and birds species surrounding the water body namely Little Carmment, Parter, Comb Duck, Green Bee Eater, Myna, Dove, Par Keet etc.

PWD, Govt. of NCT of Delhi maintains this Water Body. It needs regular cleaning of water as well as weeds removal. Weeds are regularly removed both from water as well as surroundings within boundary walls. Water is cleaned by aerators.

C.E.O., DPGS/Nodal Officer, Water Bodies, Delhi

Thanks

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